

## Patent claims

1. An arrangement (1) for connecting an optical waveguide (2) to a microprocessor-controlled electrical appliance (3) having

5 - an arithmetic module (4) which is connected to the electrical appliance (3) and has network functionalities for linking the electrical appliance (3) to a network,

10 - an interface chip (7), connected to the arithmetic module (4), in the form of an integrated circuit chip, and

15 - an optical transmission and reception chip (9) which is connected firstly to the interface chip (7) and secondly to the optical waveguide (2),

characterized in that

- the interface chip (7) has integrated functional modules (7a, 7b, 7c) which provide at least some of the network functionalities.

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2. The arrangement (1) as claimed in claim 1,

characterized in that

- at least one functional module (7a) integrated in the interface chip (7) provides a switch functionality.

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3. The arrangement (1) as claimed in claim 1 or 2,

characterized in that

- at least one functional module (7b) integrated in the interface chip (7) provides a filter functionality.

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4. The arrangement (1) as claimed in one of the preceding claims,

characterized in that

- the interface chip (7) is an EPLD.

5. The arrangement (1) as claimed in one of claims 1 to 3,  
characterized in that

5 - the interface chip (7) is an FPGA.

6. The arrangement (1) as claimed in one of claims 1 to 3,  
characterized in that

- the interface chip (7) is an ASIC.